

WHAT IS CLAIMED IS:

1. An apparatus for producing an RF transmission signal including a plurality of frequency channels, comprising:

an IF processor having a first input for receiving a baseband signal and a second input for receiving a first combining signal, said IF processor for combining the baseband signal with the first combining signal to produce an IF signal;

an RF processor having a first input coupled to said IF processor for receiving the IF signal and a second input for receiving a second combining signal, said RF processor for combining the IF signal with the second combining signal to produce an RF transmission signal including a plurality of frequency channels separated by a desired frequency channel spacing;

a first frequency synthesizer coupled to said second input of said IF processor for providing the first combining signal at one of a plurality of possible frequencies separated from one another by a raster component of said desired frequency channel spacing; and

said first frequency synthesizer including a comparison frequency generator for generating a comparison frequency corresponding to said raster component, said first frequency synthesizer responsive to said comparison frequency for producing the first combining signal.

2. The apparatus of Claim 1, wherein the comparison frequency is an integer multiple of said raster component.

3. The apparatus of Claim 1, wherein the comparison frequency is equal to said raster component.

5 4. The apparatus of Claim 1, wherein said first frequency synthesizer includes an integer phase locked loop.

5. The apparatus of Claim 4, wherein said phase locked loop is a type -1 phase locked loop.

6. The apparatus of Claim 1, provided in a UMTS transmitter.

10 7. The apparatus of Claim 1 provided in a WCDMA transmitter.

8. The apparatus of Claim 1, including a second frequency synthesizer coupled to said second input of said RF processor for providing the second combining signal, said second frequency synthesizer including a further comparison frequency generator for generating a further comparison frequency that is greater than said raster component, said second frequency synthesizer responsive to said further comparison frequency for producing the second combining signal.

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9. The apparatus of Claim 8, wherein the further comparison frequency corresponds to a further component of said desired frequency channel spacing other than said raster component.

10. The apparatus of Claim 8, wherein said second frequency synthesizer
5 includes an integer phase locked loop.

11. A method for producing an RF transmission signal including a plurality of frequency channels separated by a desired frequency channel spacing, comprising:

providing a first combining signal at one of a plurality of possible frequencies separated from one another by a raster component of the desired frequency channel spacing, including generating a comparison frequency corresponding to said raster
10 component and producing the first combining signal in response to said comparison frequency;

combining the first combining signal with a baseband signal to produce an IF signal; and

15 combining the IF signal with a second combining signal to produce the RF transmission signal.

12. The method of Claim 11, wherein the comparison frequency is an integer multiple of said raster component.

13. The method of Claim 11, wherein the comparison frequency is equal to said raster component.

14. The method of Claim 11, wherein said providing step includes using an integer phase locked loop to produce the first combining signal.

5 15. The method of Claim 14, wherein said using step includes using a type-1 phase locked loop to produce the first combining signal.

16. The method of Claim 11, wherein the RF transmission signal is a UMTS transmission signal.

10 17. The method of Claim 11, wherein the RF transmission signal is a WCDMA transmission signal.

18. The method of Claim 11, including generating a further comparison frequency that is greater than said raster component, and producing the second combining signal in response to said further comparison frequency.

15 19. The method of Claim 18, wherein the further comparison frequency corresponds to a further component of said desired frequency channel spacing other than said raster component.

20. The method of Claim 18, wherein said step of producing the second combining signal includes using an integer phase locked loop to produce the second combining signal.

21. An apparatus for producing an RF transmission signal including a plurality of frequency channels separated by a desired frequency channel spacing, comprising:

an input for receiving a baseband signal;

an IF processor coupled to said input for receiving said baseband signal and producing therefrom an IF signal including a raster component of said desired frequency channel spacing; and

an RF processor coupled to said IF processor for receiving the IF signal and producing therefrom said RF transmission signal.

22. The apparatus of Claim 21, wherein said IF processor includes a direct digital synthesizer.

23. The apparatus of Claim 21, provided in one of a UMTS transmitter and a WCDMA transmitter.

24. A method for producing an RF transmission signal including a plurality of frequency channels separated by a desired frequency channel spacing, comprising:

producing from a baseband signal an IF signal including a raster component of said desired frequency channel spacing; and

5 producing the RF transmission signal from the IF signal.

25. The method of Claim 24, wherein the RF transmission signal is one of a UMTS transmission signal and a WCDMA transmission signal.